than at refrigerator or room temperature. When −20 degree C storage is not available, the commercial products of necessity must be used.

JUDITH G. POOL, PH.D.

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Proven and Possible Future Uses of Anti-Rh Gamma Globulin

Rh hemolytic disease of the newborn can be nearly completely eliminated by the prompt administration of anti-Rh gamma globulin (RhoGAM®) during the post-partum period. All non-immunized Rh-negative women delivered of Rh-positive infants should be treated with one ml of RhoGAM, which contains 300 μg of antibody. Large fetal-maternal hemorrhage must be recognized in order that the dose may be increased. Confirmation of the large hemorrhage and its measurement may be done with the Kleihauer-Betke technique. For these patients one ml of RhoGAM should be given for each 10 ml of packed fetal red cells in maternal circulation. A similar dose schedule is recommended for the accidental transfusion of Rh-positive blood to an Rh-negative patient.

E. R. JENNINGS, M.D.

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Blood Component Therapy: Packed Red Blood Cells versus Whole Blood

Hemotherapy is best accomplished by infusions of specific blood components and derivatives. If all transfusions, when the red blood cells are needed, were accomplished by infusion of packed red blood cells, then as a by-product of whole blood collection, the Blood Bank will be able to make available all of the components and derivatives, which are single donor plasma, fresh frozen plasma, fresh frozen lyophilized plasma, 5 percent albumin, 25 percent albumin, platelet concentrates, Factor VIII rich cryoprecipitates, Factor VIII concentrates, Factor II-IX concentrates and gamma globulin. A unit of packed red blood cells (volume of 300 ml) has the identical red cell mass as a unit of whole blood (volume of 517.5 ml) and its use is preferable to whole blood because the unit of packed red blood cells (1) has greater oxygen carrying capacity per ml, (2) gives greater immediate rise of patient's hematocrit, (3) will increase the patient's blood viscosity—an aid in correcting the high output cardiac failure often seen in anemia, (4) has lessened incidence of transfusion hepatitis, (5) has lessened incidence of allergic and febrile type transfusion reactions, (6) has lessened sodium and albumin—an aid in transfusions for elderly patients and patients with congestive heart failure, (7) has lessened amounts of ammonia and citrate—an aid in transfusions for patients with liver failure, (8) has lessened potassium and acid—helpful in patients with renal failure and in exchange transfusions for the newborn.

All patients requiring red blood cell infusions are effectively treated with cross-matched packed red blood cells. Even in hemorrhage, if the hemorrhagic shock has been corrected with plasma expanders, packed red blood cells are preferable to replace the red blood cell mass.

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Preoperative Screening for Bleeding Diathesis

Despite the current availability of sensitive laboratory screening tests for bleeding disorders, a careful history to elicit evidence of abnormal bleeding in the patient or his family remains the most valuable single preoperative screening procedure. All patients with an abnormal or suspicious history should have adequate laboratory screening tests before operation. Although a case can be made for routine preoperative laboratory studies, this depends on the availability of laboratory personnel; and the use of routine tests should never replace a careful history. When the history indicates a need for further study, laboratory screening tests of value include the following: (1) Evaluation of platelets by careful examination of blood smear or platelet count; (2) bleeding time (Ivy or modified Ivy method); (3) activated partial thromboplastin time; (4) prothrombin time; (5) thrombin time. It should be emphasized that the clotting time for whole blood is of no value as a screening test. Specific assays of clotting factors and other special tests

(fibrin-stabilizing factor, platelet function tests) may be indicated in some cases.

CHARLES F. ABILDGAARD, M.D.

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Preservation and Transplantation of Human Cadaver Kidneys

At the University of California, San Francisco, 58 human cadaver kidneys have been transplanted during the past two years, after preservation of up to 50 hours. The method of preservation by isolated perfusion has been previously described. Except for donor nephrectomy, cadaver transplantation has become an elective procedure. Recent data have shown that this method of preservation enables us to distinguish suitable from unsuitable grafts before transplantation. Although all kidneys have been obtained from "non-heart-beating" cadavers and the average warm ischemia time has been 30 minutes, postoperative tubular necrosis has been less than 10 percent in our last 30 patients. During preservation, no decrease in renal function could be attributed to the length of storage, and in many patients postoperative renal function was undistinguishable from that of grafts obtained from living donors. Adequate organ preservation has enabled us to perform transplantation between geographically separated donors and recipients. Tissue typing is not done until the kidneys have been obtained, thus eliminating unnecessary typing of the so-called "potential donor." In addition, reliable preservation has made it possible to select graft recipients by typing and cross-matching the donor leukocytes and kidney cells. Preliminary results strongly suggest that well-matched cadaver kidneys for human lymphocyte antigen factors on both leukocytes and kidney cells will function better than grafts obtained from poorly matched living related donors.

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SAMUEL L. KOUNTZ, M.D.

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CORRECTION

In the item, "Immunoglobulin IgA", which appeared on page 42, June issue, as a part of the Important Advances in Clinical Medicine, an error was made. The sentence reading " 'Secretory piece' is a G-globulin with a molecular weight of 50,000," should have read " 'Secretory piece' is a B-globulin with a molecular weight of 50,000."